# Supplementary material

**Supplementary table 1. Incidence rates of suicide attempt among children exposed to parental suicide attempt.**

|  |  |  |
| --- | --- | --- |
|  | Exposed to parents’ SA |  Not exposed to parents’ SA |
|  | Number of cases | Person-years | IR per 100,000 person years (95% CI)  | Number of cases | Person-years | IR per 100,000 person years (95% CI) |
| **Total sample** | 6,996 | 2,960,663 | 236.3 (230.8-241.8) | 70,112 | 91,391,897 | 76.7 (76.1-77.3) |
| **Child’s gender** |  |  |  |  |  |  |
| Female | 277 | 1,425,195 | 276.5 (267.9-285.2) | 16,243 | 44,809,277 | 87.3 (86.4-88.1) |
| Male | 199 | 1,535,468 | 199.0 (191.9-206.0) | 13,852 | 46,582,620 | 66.6 (65.8-67.3) |
| **Child’s age group** |  |  |  |  |  |  |
| Age 10-14 | 544 | 368,081 | 147.8 (135.4-160.2) | 4,206 | 11,905,119 | 35.3 (34.3-36.4) |
| Age 15-19 | 2,064 | 418,764 | 492.9 (471.6-514.1) | 16,192 | 12,329,767 | 131.3 (129.3-133.3) |
| Age 20-24 | 1,513 | 433,554 | 349.0 (331.4-366.6) | 13,816 | 12,645,912 | 109.3 (107.4-111.1) |
| Age 25-29 | 1,012 | 415,369 | 243.6 (228.6-258.6) | 10,770 | 12,606,095 | 85.4 (83.8-87.0) |
| Age 30-39 | 1,216 | 707,217 | 171.9 (162.3-181.6) | 14,767 | 21,037,756 | 70.2 (69.1-71.3) |
| Age 40-49 | 489 | 439,318 | 111.3 (101.4-121.2) | 7,416 | 14,285,286 | 51.9 (50.7-53.1) |
| Age 50-63 | 107 | 149,241 | 71.7 (58.1-85.3) | 2,442 | 6,952,450 | 35.1 (33.7-36.5) |
| **Calendar time** |  |  |  |  |  |  |
| 1980-1989 | 699 | 249,810 | 279.8 (259.1-300.6) | 14,530 | 16,519,882 | 88.0 (86.5-89.4) |
| 1990-1999 | 1,712 | 687,202 | 249.1 (237.3-260.9) | 18,729 | 22,346,570 | 83.8 (82.6-85.0) |
| 2000-2016 | 4,585 | 2,023,651 | 226.6 (220.0-233.1) | 36,853 | 52,525,444 | 70.2 (69.4-70.9) |
| **Child living with both parents** |  |  |  |  |  |  |
| No | 4,141 | 1,598,839 | 259.0 (251.1-266.9) | 36,331 | 39,245,031 | 92.6 (91.6-93.5) |
| Yes | 2,855 | 1,361,824 | 209.6 (202.0-217.3) | 33,781 | 52,146,866 | 64.8 (64.1-65.5) |
| **Parental separation** |  |  |  |  |  |  |
| No | 1,092 | 612,760 | 178.2 (167.6-188.8) | 37,336 | 57,150,073 | 65.3 (64.7-66.0) |
| Yes | 5,904 | 2,347,904 | 251.5 (245.0-257.9) | 32,776 | 34,241,824 | 95.7 (94.7-96.8) |
| **Maternal age at child's birth** |  |  |  |  |  |  |
| <24 | 3,262 | 1,228,028 | 265.6 (256.5-274.7) | 30,127 | 32,725,352 | 92.1 (91.0-93.1) |
| 25-29 | 2,438 | 1,094,782 | 222.7 (213.9-231.5) | 23,124 | 34,422,481 | 67.2 (66.3-68.0) |
| 30-39 | 1,185 | 574,260 | 206.4 (194.6-218.1) | 15,084 | 22,949,144 | 65.7 (64.7-66.8) |
| >40 | 60 | 34,474 | 174.0 (130.0-218.1) | 1,274 | 1,665,406 | 76.5 (72.3-80.7) |
| **Paternal age at child's birth** |  |  |  |  |  |  |
| <24 | 1,867 | 685,939 | 272.2 (259.8-284.5) | 21,315 | 21,927,845 | 97.2 (95.9-98.5) |
| 25-29 | 2,678 | 1,133,818 | 236.2 (227.2-245.1) | 21,646 | 30,493,932 | 71.0 (70.0-71.9) |
| 30-39 | 2,000 | 922,119 | 216.9 (207.4-226.4) | 21,552 | 32,563,911 | 66.2 (65.3-67.1) |
| >40 | 400 | 189,667 | 210.9 (190.2-231.6) | 5,096 | 6,776,695 | 75.2 (73.1-77.3) |
| **Child has sibling(s)** |  |  |  |  |  |  |
| No | 328 | 181637 | 180,6 (161.0-200.1) | 13631 | 17278861 | 78.9 (77.6-80.2) |
| Yes | 6617 | 2749905 | 240.8 (234.8-246.4) | 55978 | 74483521 | 75.2 (74.5-75.8) |
| **Parents’ educational level** |  |  |  |  |  |  |
| Elementary school | 1,587 | 562,174 | 282.3 (268.4-296.2) | 13,089 | 16,077,955 | 81.4 (80.0-82.8) |
| High-school and/or vocational training | 2,562 | 1,100,171 | 232.9 (223.9-241.9) | 21,132 | 29,418,477 | 71.8 (70.9-72.8) |
| University degree | 155 | 66,462 | 233.2 (196.5-269.9) | 1,274 | 1,718,110 | 74.2 (70.1-78.2) |
| Ongoing or missing | 2,692 | 1,231,856 | 218.5 (210.3-226.8) | 34,617 | 44,177,355 | 78.4 (77.5-79.2) |
| **Parents’ socioeconomic status** |  |  |  |  |  |  |
| Employed | 3,327 | 1,375,823 | 241.8 (233.6-250.0) | 26,944 | 35,014,258 | 77.0 (76.0-77.9) |
| Unemployed | 564 | 148,170 | 380.6 (349.2-412.1) | 2,319 | 1,489,081 | 155.7 (149.4-162.1) |
| Disability pension | 1,158 | 418,704 | 276.6 (260.6-292.5) | 4,567 | 3,949,019 | 115.6 (112.3-119.0) |
| Retired | 462 | 460,507 | 100.3 (91.2-109.5) | 7,447 | 17,696,874 | 42.1 (41.1-43.0) |
| Missing | 1,434 | 528,340 | 271.4 (257.4-285.5) | 28,332 | 33,613,152 | 84.3 (83.3-85.3) |
| **Parents’ psychiatric disorder** |  |  |  |  |  |  |
| Any psychiatric disorder | 3,102 | 1,150,871 | 269.5 (260.0-279.0) | 12,412 | 9,266,913 | 133.9 (131.6-136.3) |
| Substance misuse | 708 | 280,970 | 252.0 (233.4-270.5) | 1,830 | 1,371,722 | 133.4 (127.3-139.5) |
| No psychiatric disorder | 3,186 | 1,528,822 | 208.4 (201.2-215.6) | 55,870 | 80,753,262 | 69.2 (68.6-69.8) |
| **Parental victimization** |  |  |  |  |  |  |
| No | 6,724 | 2,879,993 | 233.5 (227.9-239.1) | 69,363 | 90,850,900 | 76.3 (75.8-76.9) |
| Yes | 272 | 80,670 | 337.2 (297.1-377.2) | 749 | 540,997 | 138.4 (128.5-148.4) |

Abbreviation: SA, suicide attempt, IR, incidence rate.

**Supplementary table 2. Incidence rates and incidence rate ratios of children’s suicide attempt stratified according to characteristics of the children.**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | Exposed to parents’ SA |  |  |  | Not exposed to parents’ SA |  |
| Characteristicsof the individuals | Number of cases | Person-years | IR per 100,000 person-years (95% CI) | IRR (95% CI)a | Number of cases | Person-years | IR per 100,000 person-years (95% CI) | IRR (95% CI)a |
| **Total sample** | 6,996 | 2,960,663 | 236.3 (230.8-241.8) | 1.9 (1.8-1.9) | 70,112 | 91,391,897 | 76.7 (76.1-77.3) | --- |
| **Male** | 3,055 | 1,535,468 | 199.0 (191.9-206.0) | --- | 31,001 | 46,582,620 | 66.6 (65.8-67.3) | --- |
| **Female** | 3,941 | 1,425,195 | 276.5 (267.9-285.2) | --- | 39,111 | 44,809,277 | 87.3 (86.4-88.1) | --- |
| **Statutory child****support** |  |  |  |  |  |  |  |  |
| No | 5,577 | 2,710,227 | 205.8 (200.4-211.2) | 1.9 (.,9-2.0) | 65,137 | 90,010,404 | 72.4 (71.8-72.9) | 1 (ref) |
| Yes | 1,419 | 250,436 | 566.6 (537.1-596.1) | 3.6 (3.4-3.8) | 4,975 | 1,381,493 | 360.1 (350.1-370.1) | 3.0 (2.9-3.1) |
| **Placed out-of-home** |  |  |  |  |  |  |  |  |
| No | 4,241 | 2,421,201 | 175.2 (169.9-180.4) | 1.9 (1.9-2.0) | 60,004 | 88,474,602 | 67.8 (67.3-68.4) | 1 (ref) |
| Yes | 2,755 | 539,462 | 510.7 (491.6-529.8) | 3.9 (3.8-4.1) | 10,108 | 2,917,294 | 346.5 (339.7-353.2) | 3.3 (3.3-3.4) |
| **Educational leve**l |  |  |  |  |  |  |  |  |
| Long education | 261 | 232,169 | 112.4 (98.8-126.1) | 1.5 (1.3-1.7) | 4,446 | 9,001,974 | 49.4 (47.9-50.8) | 1 (ref) |
| Minimum education | 4,828 | 1,190,864 | 405.4 (394.0-416.9) | 5.1 (4.9-5.3) | 40,749 | 28,327,369 | 143.9 (142.5-145.2) | 2.9 (2.8-3.0) |
| Short education | 865 | 700,582 | 123.5 (115.2-131.7) | 1.9 (1.7-2.0) | 11,943 | 22,607,605 | 52.8 (51.9-53.8) | 1.2 (1.2-1.3) |
| Ongoing education | 177 | 388,494 | 45.6 (38.8-52.3) | 0.8 (0.7-0.9) | 3,794 | 15,893,768 | 23.9 (23.1-24.6) | 0.6 (0.6-0.6) |
| Missing | 814 | 419,435 | 194.1 (180.7-207.4) | 5.1 (4.7-5.6) | 8,677 | 15,931,667 | 54.5 (53.3-55.6) | 1.8 (1.7-1.9) |
| **Socio-economic status** |  |  |  |  |  |  |  |
| Employed | 3,230 | 1,911,225 | 169.0 (163.2-174.8) | 2.0 (1.9-2.1) | 29,513 | 56,028,311 | 52.7 (52.1-53.3) | 1 (ref) |
| Unemployed | 1,162 | 262,172 | 443.2 (417.7-468.7) | 5.7 (5.4-6.1) | 7,410 | 3,980,748 | 186.1 (181.9-190.4) | 3.8 (3.7-3.9) |
| Disability pension | 835 | 175,204 | 476.6 (444.3-508.9) | 5.9 (5.5-6.4) | 5,630 | 2,578,847 | 218.3 (212.6-224.0) | 4.9 (4.8-5.1) |
| Studying | 45 | 41,155 | 109.3 (77.4-141.3) | 1.3 (1.0-1.8) | 584 | 1,107,175 | 52.7 (48.5-57.0) | 1.0 (0.9-1.1) |
| Retired | 7 | 3,166 | 221.1 (57.3-384.9) | 3.5 (1.7-7.3) | 98 | 147,657 | 66.4 (53.2-79.5) | 1.9 (1.5-2.3) |
| Missingb | 1,666 | 538,622 | 309.3 (294.5-324.2) | 5.6 (5.3-5.9) | 26,374 | 27,919,645 | 94.5 (93.3-95.6) | 2.7 (2.6-2.8) |
| **Living with a partner** |  |  |  |  |  |  |  |  |
| No | 4,441 | 1,295,291 | 342.9 (332.8-352.9) | 3.7 (3.6-3.8) | 39,240 | 31,328,323 | 125.3 (124.0-126.5) | 2.1 (2.0-2.1) |
| Yes | 2,483 | 1,606,025 | 154.6 (148.5-160.7) | 2.0 (1.9-2.1) | 29,923 | 58,874,541 | 50.8 (50.2-51.4) | 1 |
| Missing | 21 | 30,227 | 69.5 (39.8-99.2) | 1.5 (1.0-2.3) | 446 | 1,559,519 | 28.6 (25.9-31.3) | 0.5 (0.5-0.6) |
| **Has children** |  |  |  |  |  |  |  |  |
| No | 4,845 | 1,700,804 | 284.9 (276.8-292.9) | 2.0 (2.0-2.1) | 44,499 | 51,542,799 | 86.3 (85.5-87.1) | 1.0 (1.0-1.0) |
| Yes | 2,151 | 1,259,859 | 170.7 (163.5-177.9) | 1.6 (1.5-1.7) | 25,613 | 39,849,098 | 64.3 (63.5-65.1) | 1 (ref) |
| **Any mental illness** |  |  |  |  |  |  |  |  |
| No | 3,387 | 2,606,097 | 130.0 (125.6-134.3) | 2.4 (2.4-0.0) | 37,373 | 87,250,654 | 42.8 (42.4-43.3) | 1(ref) |
| **Yes** | 3,558 | 325,446 | 1,093.3 (1,057.3-1,129.2) | 23.3 (22.4-0.0) | 32,236 | 4,511,730 | 714.5 (706.7-722.3) | 20.8 (20.4-21.1) |

Abbreviation: SA, suicide attempt, IR, incidence rate, IRR, incidence rate ratio.

a Adjusted for child’s gender and age group, child living with both parents, parental separation, maternal and paternal age at child’s birth, child has siblings, parents’ educational level, parents’ socio-economic status, parents’ psychiatric disorder, parental victimization.

b High number of missing mostly due to young age of individuals and thus no record of employment or being a student above the level of primary education.

**Supplementary** **figure 1: Adjusted associations between parent and child characteristics with incidence rate ratios of child suicide attempt**



**Supplementary figure 2. Hazards of suicide attempt from age 10 years according to child’s age and exposure group**

